AMENDMENT TO CLAIMS

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1.-58. (Cancelled)

59. (Currently Amended) An electrolyzer for the separation of water comprising:

an aqueous electrolytic solution comprising water, the aqueous electrolyte solution partially filling an electrolysis chamber such that a gas reservoir region is formed above the aqueous electrolyte solution, said chamber being adapted to be installed in a ~~closed~~ pressurized piping system;

port means for adding the aqueous electrolytic solution to the chamber during operation of said electrolyzer when said electrolyzer is installed and used in said ~~closed~~ pressurized piping system;

two ~~flat~~ principal electrodes comprising an anode electrode and a cathode electrode, the two principal electrodes being at least partially immersed in the aqueous electrolyte solution;

one or more ~~flat~~ supplemental electrodes at least partially immersed in the aqueous electrolyte solution and interposed between the two principal electrodes wherein the two principal electrodes and the one or more ~~flat~~ supplemental electrodes are held in a fixed spatial relationship, and wherein the one or more ~~flat~~ supplemental electrodes are not connected electrically to a power source;

for each ~~flat~~ supplemental adjacent electrodes, one is made of a high porosity foam **meshed** based material made substantially of a nickel material and the opposing electrode is made substantially of a stainless steel material, wherein said ~~meshed~~ supplemental electrodes results in a (+) and (-) electrical (ionic) current flow that causes the formation of a single combustible gas over an entire surface area of both sides of all electrodes within the electrolyzer;

~~one or more external fins serving as a heat sink for removing heat from the electrolyzer~~; and

said electrolyzer being adapted to separate the water such that its constituents of H and O are not recombined and instead produced jointly to make the single combustible gas composed of combinations of magnetically bonded clusters of hydrogen and oxygen atoms structured according to a general formula H_mO_n wherein m and n have null or positive integer values with the exception that m and n can not be 0 at the same time,

wherein said combustible gas has a varying energy content depending on its use.

60. (Previously Presented) The electrolyzer according to claim 59, wherein said combustible gas contains atomic hydrogen.

61. (Previously Presented) The electrolyzer according to claim 59, wherein said combustible gas contains atomic oxygen.

62. (Previously Presented) The electrolyzer according to claim 59, wherein the combustible gas instantly melts solids.

63. (Previously Presented) The electrolyzer according to claim 59, wherein the combustible gas can be used as a fuel without the need of atmospheric oxygen.

64. (Previously Presented) The electrolyzer according to claim 59, wherein the combustible gas can bond to combustible fuels via magnetic induction.

65. (Previously Presented) The electrolyzer according to claim 59, wherein when said combustible gas is used as an additive to a combustible fuel, a combustion of said fuel having said additive results in an exhaust emission having less pollutants than a combustion of said fuel alone.

66. (Previously Presented) The electrolyzer according to claim 59, wherein each adjacent electrodes are spaced-apart from each other by a distance of about 0.15 inches to about 0.35 inches.

67. (Currently Amended) An on-demand self-producing combustible gas electrolyzer system for the separation of water into a combustible gas for use in combustion equipment, such as welder and combustion engines, the electrolyzer system comprising:

an electrolyte reservoir having a top portion adapted to contain a generated combustible gas and a bottom portion containing electrolytic fluid comprising water;

an electrolyzer, said electrolyzer being installed in a ~~closed~~ pressurized portion of the system;

said electrolyzer having two ~~flat~~ principal electrodes comprising an anode electrode and a cathode electrode, the two principal electrodes being at least partially immersed in an aqueous electrolyte solution within the electrolyzer;

one or more ~~flat~~ supplemental electrodes at least partially immersed in the aqueous electrolyte solution and interposed between the two principal electrodes wherein the two principal electrodes and the one or more ~~flat~~ supplemental electrodes are held in a fixed spatial relationship, and wherein the one or more ~~flat~~ supplemental electrodes are not connected electrically to a power source;

for each ~~flat~~ supplemental adjacent electrodes, one is made of a high porosity foam **meshed** based material made substantially of a nickel material and the opposing electrode is made substantially of a stainless steel material, wherein said ~~meshed~~ supplemental electrodes results in a (+) and (-) electrical (ionic) current flow that causes the formation of a single combustible gas over an entire surface area of both sides of all electrodes within the electrolyzer;

a pump fluidly interposed between the bottom of the electrolyte reservoir and the electrolyzer wherein the pump draws electrolytic fluid from the electrolyte reservoir and pumps it to the electrolyzer;

a radiator fluidly connected to and interposed between the electrolyzer and the electrolyte reservoir, the radiator adapted to cool the generated combustible gas before returning to the top portion of the electrolyte reservoir;

an interstitial space within the reservoir above the electrolytic fluid in the top portion of the electrolytic reservoir wherein the generated combustible gas accumulates; and

at least one dryer/filter means through which the generated combustible gas passes before being drawn as needed for use,

wherein the electrolyzer is adapted to separate water such that its constituents of H and O are not recombined and instead produced jointly to make a combustible gas composed of combinations of magnetically bonded clusters of hydrogen and oxygen

atoms structured according to a general formula H_mO_n wherein m and n have null or positive integer values with the exception that m and n can not be 0 at the same time, said produced gas being stable and nonvolatile, and

wherein said combustible gas has a varying energy content depending on its use.

68. (Previously Presented) The electrolyzer system according to claim 67, wherein said combustible gas contains atomic hydrogen.

69. (Previously Presented) The electrolyzer system according to claim 67, wherein said combustible gas contains atomic oxygen.

70. (Previously Presented) The electrolyzer system according to claim 67, wherein the combustible gas instantly melts solids.

71. (Previously Presented) The electrolyzer system according to claim 67, wherein the combustible gas can be used as a fuel without the need of atmospheric oxygen.

72. (Previously Presented) The electrolyzer system according to claim 67, wherein the combustible gas can bond to combustible fuels via magnetic induction.

73. (Previously Presented) The electrolyzer system according to claim 67, wherein when said combustible gas is used as an additive to a combustible fuel, a combustion of said fuel having said additive results in an exhaust emission having less pollutants than a combustion of said fuel alone.